



UNITED STATES PATENT AND TRADEMARK OFFICE

V4

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,125	11/13/2003	Volker Simon	DKT02185	7682
7590	02/08/2005		EXAMINER	
Borg Warner Inc. Patent Department Powertrain Technical Center 3800 Automation Ave, Ste. 100 Auburn Hills, MI 48326-1782			KERSHTEYN, IGOR	
			ART UNIT	PAPER NUMBER
			3745	
			DATE MAILED: 02/08/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/712,125	SIMON ET AL.	
	Examiner	Art Unit	
	Igor Kershsteyn	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 11-20,36,37 and 50 is/are rejected.
- 7) Claim(s) 21-35,38-49 and 51-58 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 November 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

In page 9, line 22, "and appended claims" should be deleted,

In page 36, lines 18-20, ", and that they should not be taken as limiting the invention as defined in the following claims" should be deleted,

In page 36, line 26, "of the following claims" should be deleted,

In page 37, line 14, "claimed" should be deleted,

In page 37, lines 21-25 should be deleted, because claims should not be mentioned in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-13, 17-20, 36, 37, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartholomew (3,723,021).

In figures 1-6, Bartholomew teaches an apparatus 10 for generating pre-whirl of

supply air to an inlet of a compressor comprising: a housing 11 for said pre-whirl generating apparatus 10, said housing 11 being mounted adjacent to said inlet of said compressor and forming an intake channel for supply air in communication with and leading to said inlet; a deformable air deflecting vane 25 positioned in said channel, said vane 25 having a leading edge (not numbered) and a trailing edge (not numbered), said leading edge being fixed in said channel, and said trailing edge being free to be deflected with respect to said channel to deflect air passing through said channel and means 29-31 for selectively deflecting said trailing edge of said vane 25 so that said vane 25 will deflect air passing through said channel to generate a pre-whirl flow in either a positive, neutral, or negative direction at said inlet of said compressor.

Note. The parts of the preamble in claim 11 reciting “a radial compressor” is not considered as limitation of the claim, and the claims that are dependent on the above claim, because body of the claim 11 do not directly include the structure of the “a radial compressor”. See MPEP 2111.02 [R-2] PREAMBLE STATEMENTS RECITING PURPOSE OR INTENDED USE.

Claims 11-13, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Christensen (2,614,747).

In figures 1-4, Christensen teaches an apparatus for generating pre-whirl of supply air to an inlet 19 of a radial compressor comprising: a housing 6 for said pre-whirl generating apparatus, said housing 6 being mounted adjacent to said inlet 19 of said compressor and forming an intake channel for supply air in communication with and

leading to said inlet 19; a deformable air deflecting vane 5 positioned in said channel, said vane 5 having a leading edge 9 and a trailing edge 13, said leading edge 9 being fixed in said channel, and said trailing edge 13 being free to be deflected with respect to said channel to deflect air passing through said channel and means 8 for selectively deflecting said trailing edge 13 of said vane 5 so that said vane 5 will deflect air passing through said channel to generate a pre-whirl flow in either a positive, neutral, or negative direction at said inlet 19 of said compressor.

Claims 11-13, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Delonge et al. (5,472,314).

In figures 1A-2, Delonge et al. teach an apparatus for generating pre-whirl of supply air to an inlet of a compressor comprising: a housing 40 for said pre-whirl generating apparatus, said housing 40 being mounted adjacent to said inlet of said compressor and forming an intake channel for supply air in communication with and leading to said inlet; a deformable air deflecting vane (not numbered) positioned in said channel, said vane having a leading edge 1 and a trailing edge 2, said leading edge 1 being fixed in said channel, and said trailing edge 2 being free to be deflected with respect to said channel to deflect air passing through said channel and means 61 for selectively deflecting said trailing edge 2 of said vane so that said vane will deflect air passing through said channel to generate a pre-whirl flow in either a positive, neutral, or negative direction at said inlet of said compressor.

Claims 11, 12, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Le Bell et al. (3,237,918).

In figures 1-3, Le Bell et al. teach an apparatus 20 for generating pre-whirl of supply air to an inlet of a compressor comprising: a housing 22,23 for said pre-whirl generating apparatus 20, said housing 22,23 being mounted adjacent to said inlet of said compressor and forming an intake channel for supply air in communication with and leading to said inlet; a deformable air deflecting vane 21 positioned in said channel, said vane 21 having a leading edge 30 and a trailing edge 31, said leading edge 30 being fixed in said channel, and said trailing edge 31 being free to be deflected with respect to said channel to deflect air passing through said channel and means 52 for selectively deflecting said trailing edge 31 of said vane 21 so that said vane 21 will deflect air passing through said channel to generate a pre-whirl flow in either a positive, neutral, or negative direction at said inlet of said compressor.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christensen (2,614,747) in view of Weir (3,406,760).

Christensen teaches all the claimed subject matter except that he doesn't teach the trailing edge of said vane is reinforced for stiffness, said trailing edge is an area of increased thickness of said vane along said trailing edge, said trailing edge has a crimp along said trailing edge.

Weir in figures 1-5, teaches a flexible vane 14 having a trailing edge of said vane 14 that is reinforced for stiffness, said trailing edge is an area of increased thickness of said vane 14 along said trailing edge, said trailing edge has a crimp 15 along said trailing edge.

Since Christensen and Weir are analogous art because they are from the same field of endeavor, that is the flexible airfoil art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the vane of Christensen with the reinforced trailing edge as taught by Weir for the purpose of improving the stiffness of the trailing edge.

Allowable Subject Matter

Claims 21-35, 38-49, and 51-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of seven patents.

Adamtchik (2,337,861) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Chapman et al. (2,373,166) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Biheller (3,664,759) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Penny et al. (4,029,433) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Badger et al. (3,397,836) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Kapich (4,764,088) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Kapich (4,874,288) is cited to show an adjustable inlet guide vanes arrangement having a housing, and a deformable air deflecting vane but fails to teach means for selectively deflecting a trailing edge.

Japan Patent No. JP 06101410 A is cited to show an adjustable guide vanes but fails to teach the vanes being deflectable.

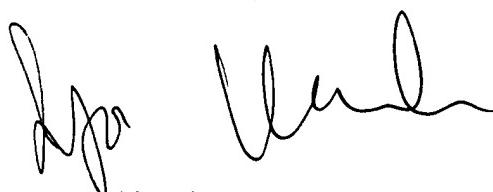
Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK
February 4, 2005



Igor Kershteyn
Patent examiner.
Art Unit 3745



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700
2/5/05